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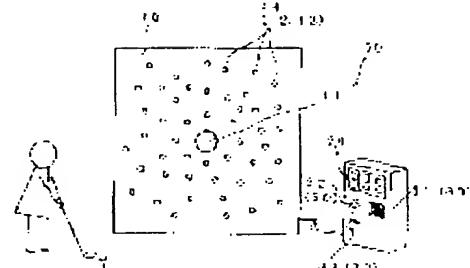
(22)Date of filing : 11.05.1994 (72)Inventor : ASANO  
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### (54) GOLF TRAINING MACHINE

#### (57)Abstract:

PURPOSE: To provide a golf training machine which enables even a beginner to train golf while enjoying the golf with a simple structure.

CONSTITUTION: This golf training machine has a hit position detecting means 12 for detecting the position where a ball shot toward a sheet 10 serving as a target is hit against the sheet 10. a pattern displaying means 20 for displaying respectively at least the pattern corresponding to the hit position of the first hit ball and the pattern corresponding to the hit position of the second hit ball and a performance executing means 30 for executing the prescribed performance when the pattern of the specific pattern is displayed on the pattern displaying means 20.



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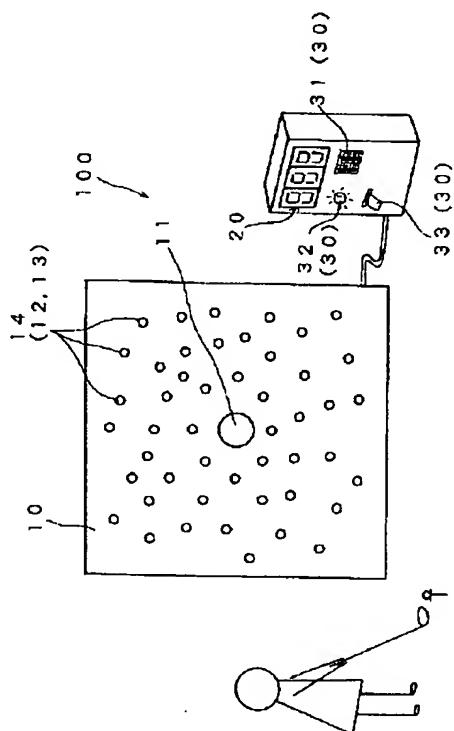
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(54)【発明の名称】 ゴルフ練習機

(57)【要約】

【目的】 初級者であっても楽しみながらゴルフの練習を行うことができるゴルフ練習機を、簡単な構造によって提供すること。

【構成】 的となるシート10に打ち出された打球の前記シート10における命中部位を検出する命中部位検出手段12と、少なくとも第一の打球の命中部位に対応する図柄と第二の打球の命中部位に対応する図柄との各々を表示する図柄表示手段20と、この図柄表示手段20に特定の態様の図柄が表示されたときに所定の演出を実行する演出実行手段30とを備えた。



## 【特許請求の範囲】

【請求項1】的となるシートに打ち出された打球の前記シートにおける命中部位を検出する命中部位検出手段と、少なくとも第一の打球の命中部位に対応する図柄と第二の打球の命中部位に対応する図柄との各々を表示する図柄表示手段と、この図柄表示手段に特定の態様の図柄が表示されたときに所定の演出を実行する演出実行手段とを備えたことを特徴とするゴルフ練習機。

【請求項2】的となるシートに打ち出された打球の前記シートにおける命中部位を検出する命中部位検出手段と、前記打球の速度を検出する打球速度検出手段と、少なくとも第一の打球の命中部位及び速度に対応する図柄と第二の打球の命中部位及び速度に対応する図柄との各々を表示する図柄表示手段と、この図柄表示手段に特定の態様の図柄が表示されたときに所定の演出を実行する演出実行手段とを備えたことを特徴とするゴルフ練習機。

【請求項3】前記シートにゴルフ場のコースの映像と少なくとも打球の命中部位のデータから作成された打球の映像との各々を映し出す画像処理手段を備えたことを特徴とする請求項1または請求項2記載のゴルフ練習機。

## 【発明の詳細な説明】

## 【0001】

【産業上の利用分野】本各発明は、ゴルフ練習機に関し、詳しくは、初級者であっても楽しみながら練習を行うことができるゴルフ練習機に関する。

## 【0002】

【従来の技術】従来より、ゴルフ練習機としては、シート等に描かれた目的を備え、練習者がこの目的を目標にゴルフボールを打ち出してゴルフの練習を行うようにしたものがある。

【0003】ここで、練習者が上級者である場合、練習者は、狙った的に打球を頻繁に命中させることができ、自分の優れた技量を確認して満足しながら練習を行うことができる。ところが、練習者が初級者である場合には、打球が狙った的に命中するのはむしろ稀であり、大多数の打球は狙った的以外の部位に命中する。そこで、初級者は、より多くの打球が目的に命中するように練習を繰り返し、技量を向上させるのである。

## 【0004】

【発明が解決しようとする課題】しかしながら、従来のゴルフ練習機にあっては、狙った的に打球を頻繁に命中させることができる上級者にとって、自分の優れた技量を確認して満足しながらゴルフの練習をすることができるものであるが、大多数の打球を的から外す初級者にとって、より多くの打球が目的に命中するようにゴルフボールを打ち出す練習を単に繰り返し行わなければならないものであり、その練習内容が無味乾燥したものであった。

【0005】本各発明は、このような実状を鑑みてなさ

れたものであり、その目的とするところは、初級者であっても楽しみながらゴルフの練習を行うことができるゴルフ練習機を、簡単な構造によって提供することである。

【0006】そして、特に請求項2及び請求項3の発明においては、加えて、より趣向が凝らされたゴルフ練習機を、簡単な構造によって提供することである。

## 【0007】

【課題を解決するための手段】以上の課題を解決するために、本各発明の採った手段を、図面に使用する符号を付して説明すると、まず、請求項1の発明は、「的となるシート10に打ち出された打球の前記シート10における命中部位を検出する命中部位検出手段12と、少なくとも第一の打球の命中部位に対応する図柄と第二の打球の命中部位に対応する図柄との各々を表示する図柄表示手段20と、この図柄表示手段20に特定の態様の図柄が表示されたときに所定の演出を実行する演出実行手段30とを備えたことを特徴とするゴルフ練習機100」である。

【0008】次に、請求項2の発明は、「的となるシート10に打ち出された打球の前記シート10における命中部位を検出する命中部位検出手段12と、前記打球の速度を検出する打球速度検出手段13と、少なくとも第一の打球の命中部位及び速度に対応する図柄と第二の打球の命中部位及び速度に対応する図柄との各々を表示する図柄表示手段20と、この図柄表示手段20に特定の態様の図柄が表示されたときに所定の演出を実行する演出実行手段30とを備えたことを特徴とするゴルフ練習機100」である。

【0009】最後に、請求項3の発明は、「前記シート10にゴルフ場のコースの映像と少なくとも打球の命中部位のデータから作成された打球の映像との各々を映し出す画像処理手段を備えたことを特徴とする請求項1または請求項2記載のゴルフ練習機100」である。

## 【0010】

【発明の作用】このように構成された本各発明に係るゴルフ練習機100は、次のように作用する。

【0011】まず、請求項1の発明に係るゴルフ練習機100は、シート10における打球の命中部位を検出する命中部位検出手段12によって第一の打球と第二の打球との各々の命中部位を検出し、各命中部位に対応する図柄を各々図柄表示手段20に表示するようにしたものであり、この図柄表示手段20に特定の態様の図柄が表示されたときに演出実行手段30によって種々の演出を実行するようにしたものである。このため、練習者は、例えば第一の打球と第二の打球が狙った的11を外れた場合でも、図柄表示手段20に表示された図柄が特定の態様である場合に実行される演出を楽しみながら練習得を行えることになる。すなわち、特定の態様の図柄の偶発的な発生により、種々の演出が偶発的に実

行されるため、練習者は、この偶発的に実行される演出を楽しみながらゴルフの練習を行うことができるところになる。

【0012】次に、請求項2の発明に係るゴルフ練習機100は、請求項1の発明に係るゴルフ練習機100に打球の速度を検出する打球速度検出手段13を備え、図柄表示手段20に表示される図柄を、命中部位ばかりではなく打球の速度にも対応させたものである。このため、図柄表示手段20に表示される図柄の態様が複雑化され、より趣向が凝らされることになる。

【0013】最後に、請求項3の発明に係るゴルフ練習機100は、請求項1または請求項2の発明に係るゴルフ練習機100に画像処理手段を備え、この画像処理手段によって、シート10にゴルフ場のコースの映像を映し出し、さらに、少なくとも打球の命中部位から作成された打球の映像を映し出すようにしたものである。このため、このゴルフ練習機100を使用する練習者は、実際にコースをラウンドする感覚でゴルフの練習をし得ることになり、より一層趣向が凝らされることになる。

【0014】

【実施例】次に、本各発明に係るゴルフ練習機100の実施例を、図面に従って詳細に説明する。

【0015】図1に、請求項2の発明に係るゴルフ練習機100の一実施例を示す。このゴルフ練習機100においては、略四角形状の枠体（図示しない）によって練習領域が形成されており、この練習領域の最奥部位に、略中央部分に的11が描かれシート10が配設されている。そして、シート10における的11の外周辺に、命中部位検出手段12と打球速度検出手段13との各々として機能する複数の加圧導電ゴム14がランダム的に配設されている。ここで、命中部位検出手段12及び打球速度検出手段13としての複数の加圧導電ゴム14をランダム的に配設せず、例えば図2に示すように、同心円状に配設したり、例えば図3に示すように、格子状に配設してもよい。また、枠体により形成された練習領域の両側面や上面等にも命中部位検出手段12及び打球速度検出手段13を備えたシート10を配設してもよい。

【0016】なお、本実施例においては、命中部位検出手段12及び打球速度検出手段13として加圧導電ゴム14を採用した例を示したが、命中部位検出手段12及び打球速度検出手段13は、これに限らず、例えば各々個別のセンサーであってもよい。すなわち、命中部位検出手段12は、シート10における打球の命中部位を検出することができるものであればよく、打球速度検出手段13は、打球の速度を検出することができるものであればよい。また、打球速度検出手段13は、打球の速度を直接的に検出するものに限らず、例えばゴルフクラブのヘッドスピードを検出し、これを打球の速度とするものであってもよい。

【0017】ところで、各加圧導電ゴム14には、その

配設部位に対応する図柄（図示しない）が明記されており、打球が加圧導電ゴム14に命中すると、その加圧導電ゴム14に対応した図柄が図柄表示手段20に表示される。ここで、本実施例においては、図柄として「1」～「9」の数字を採用しており、打球の命中部位に対応する数字が図柄表示手段20に表示されるようにしてある。なお、図柄は、数字に限らず、例えば文字、図形、絵柄等であってもよい。

【0018】一方、表示される数字は、打球の速度が100km/h未満であれば赤色、100km/h以上200km/h未満であれば黄色、200km/h以上であれば青色で表示されるようにしてある。なお、打球の速度に対応する図柄の変更は、色に限るものではない。すなわち、図柄は、打球の速度にも対応して、その色、形状等が変更されればよい。

【0019】次に、図柄表示手段20は、まず最初に打ち出された第一の打球が命中した部位及び打球速度に対応する数字、色の図柄と、次に打ち出された第二の打球が命中した部位及び打球速度に対応する数字、色の図柄と、さらに次に打ち出された第三の打球が命中した部位及び打球速度に対応する数字、色の図柄との3つの図柄を表示するように構成されている。なお、図柄表示手段20は、これに限らず、少なくとも、第一の打球の命中部位及び速度に対応する図柄と、第二の打球の命中部位及び速度に対応する図柄との各々を表示するものであればよい。

【0020】このように図柄表示手段20に表示された図柄が、特定の態様（例えば3つが全て同一の数字、色に揃う等）となると、演出実行手段30によって所定の演出が実行される。ここで、本実施例においては、所定の演出として、スピーカー31からファンファーレが流れ、ライト32が点滅するようにしてあり、さらに、表示された図柄を印刷したカード33が発行されるようにしてある。なお、演出実行手段30が実行する演出としては、これらに限るものではない。

【0021】次に、図柄表示手段20及び演出実行手段30の別の形態を説明する。図柄表示手段20を、第一の打球の命中部位及び速度に対応する図柄と、第二の打球の命中部位及び速度に対応する図柄との二つの図柄を表示するものとする。そして、図柄表示手段20に特定の態様の図柄が表示された回数を、同じく図柄表示手段20に表示するようにし、これを演出実行手段30とする。ここで、図柄の特定の態様を、練習者等が予め任意に設定することができるようにしてよい。

【0022】以上、請求項2の発明に係るゴルフ練習機100の実施例を説明したが、請求項1の発明に係るゴルフ練習機100においては、前述した打球速度検出手段13を必ずしも必要としない。

【0023】次に、請求項3の発明に係るゴルフ練習機100の実施例を説明する。請求項3の発明に係るゴル

フ練習機100は、請求項1または請求項2の発明に係るゴルフ練習機100のシート10に、画像処理手段(図示しない)によって、ゴルフ場のコースの映像と、少なくとも打球の命中部位のデータから作成された打球の映像との各々を映し出すものであればよい。なお、シート10における打球の命中部位のデータから打球の映像を作成すると、打球の方向を忠実にシミュレーションすることができるが、打球の命中部位及び速度の各データから打球の映像を作成すると、打球の方向ばかりでなく、飛距離も忠実にシミュレーションすることができ都合がよい。

【0024】ここで、請求項3の発明に係るゴルフ練習機100の具体例を、その使用態様と共に説明する。まず、シート10として、例えば図3に示したような複数の加圧導電ゴム14が格子状に配設されたものを採用する。そして、このシート10に、実際のゴルフ場のコースを撮影したフィルムやコンピュータ・グラフィックス等の画像処理手段によって、ゴルフ場のコースの映像を映し出させる。次に、練習者は、コースが映し出されたシート10に向かってゴルフボールを打ち出し、シート10に打球を命中させる。すると、実際の打球は、シート10に命中した後に落下するのであるが、命中部位検出手段12及び打球速度検出手段13、すなわち格子状に配設された複数の加圧導電ゴム14によって検出された打球の命中部位及び速度の各データから作成された打球の映像がコースの映像に重ねてシート10に映し出され、あたかもコースに打球の飛ぶ様子がシミュレーションされる。そして、図柄表示手段20に表示される図柄として、シミュレーションされた打球の停止地点を対応させ、この図柄を図柄表示手段20に表示させる。

【0025】以上、本各発明に係るゴルフ練習機100の実施例を説明したが、本各発明は、これに限定されるものではなく、特許請求の範囲に記載された事項を逸脱しない範囲で種々の態様に変形し得るものである。例えば、ゴルフ練習機100の床面に命中部位検出手段12を配設して(加えて打球速度検出手段13を配設してもよい)、パットの練習機としてもよく、また、カードによって練習するゴルフボールの入手等の操作を行えるようにし、練習終了の際には、このカードに表示された図柄が記録されるようにする等、種々の変形が可能である。

#### 【0026】

【発明の効果】以上詳細に説明したように、まず、請求項1の発明に係るゴルフ練習機は、シートにおける打球

の命中部位を命中部位検出手段によって検出し、少なくとも第一の打球と第二の打球との命中部位に対応する図柄の各々を図柄表示手段に表示させ、特定の態様の図柄が表示されたときに所定の演出を実行するようにしたものであり、例えば打球が狙った的を外れても、偶発的に実行される演出を楽しむことができるようとしたものである。

【0027】次に、請求項2の発明に係るゴルフ練習機は、請求項1の発明に係るゴルフ練習機に加えて、打球の速度を検出する打球速度検出手段を備え、図柄表示手段に表示される図柄を、打球の命中部位と速度とに対応させたものであり、表示される図柄の対応を複雑化したものである。

【0028】最後に、請求項3の発明に係るゴルフ練習機は、請求項1または請求項2の発明に係るゴルフ練習機に加えて、シートにコースの映像と打球の映像とを映し出す画像処理手段を備えたものであり、練習内容を実際のコースのラウンドにシミュレーション化したものである。

【0029】従って、本各発明によれば、初級者であっても楽しみながらゴルフの練習を行うことができるゴルフ練習機を、簡単な構造によって提供することができる。特に、請求項2及び請求項3の発明によれば、加えて、より趣向が凝らされたゴルフ練習機を、簡単な構造によって提供することができる。

#### 【図面の簡単な説明】

【図1】本発明に係るゴルフ練習機の一実施例を示す斜視図である。

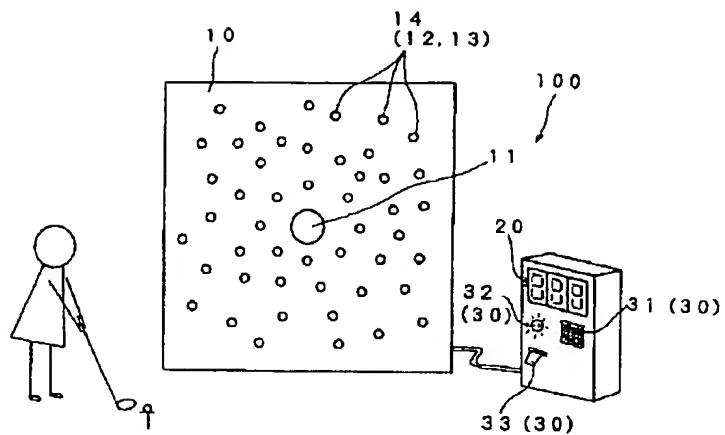
【図2】検知器が配設されたシートの別の例を示す正面図である。

【図3】検知器が配設されたシートのさらに別の例を示す正面図である。

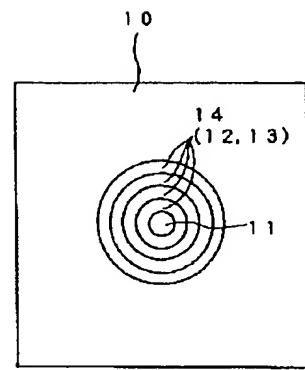
#### 【符号の説明】

- 10 シート
- 11 的
- 12 命中部位検出手段
- 13 打球速度検出手段
- 14 加圧導電ゴム
- 20 図柄表示手段
- 30 演出実行手段
- 31 スピーカー
- 32 ライト
- 33 カード
- 100 ゴルフ練習機

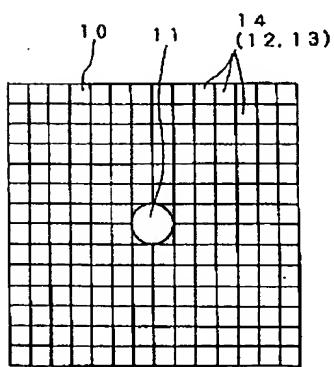
【図1】



【図2】



【図3】



## TRANSLATION OF JP 07-303723

### CLAIMS

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#### [Claim(s)]

[Claim 1] A hit part detection means to detect the hit part in said sheet of the hit ball hammered out by the sheet which serves as a target, The golf trainer airplane characterized by having a production activation means to perform predetermined production when the pattern of a specific mode is displayed on a pattern display means to display each of the pattern corresponding to the hit part of the first hit ball, and the pattern corresponding to the hit part of the second hit ball at least, and this pattern display means.

[Claim 2] A hit part detection means to detect the hit part in said sheet of the hit ball hammered out by the sheet which serves as a target, A hit ball speed detection means to detect the rate of said hit ball, and a pattern display means to display each with the pattern corresponding to the hit part of the first hit ball, the hit part of the pattern corresponding to a rate, and the second hit ball, and a rate at least, The golf trainer airplane characterized by having a production activation means to perform predetermined production when the pattern of a specific mode is displayed on this pattern display means.

[Claim 3] The golf trainer airplane according to claim 1 or 2 characterized by having the image-processing means which projects on said sheet each of the image of the course of a golf course, and the image of the hit ball created from the data of the hit part of a hit ball at least.

### DETAILED DESCRIPTION

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#### [Detailed Description of the Invention]

##### [0001]

[Industrial Application] \*\*\*\* invention relates to the golf trainer airplane which can practice while enjoying itself, even if it is a beginners' class person in detail about a golf trainer airplane.

##### [0002]

[Description of the Prior Art] Conventionally as a golf trainer airplane, it has the target drawn on the sheet etc., and there are some to which a practice person hammers out a golf ball for the purpose of this target, and was made to practice golf.

[0003] Here, when a practice person is an upper person, a practice person can make a hit ball hit the target which aimed frequently, and he can practice, checking and satisfying the workmanship which was excellent in it. However, when a practice person is a beginners' class person, it is rare rather to hit the target which the hit ball aimed at, and a large majority of hit balls hit parts other than the target which aimed. Then, a beginners' class person repeats practice so that more hit balls may hit a target, and he raises workmanship.

##### [0004]

[Problem(s) to be Solved by the Invention] However, although golf can be practiced checking and being satisfied with the target which aimed of the workmanship which was excellent in it for the upper person who can make a hit ball hit the mark frequently if it is

in the conventional golf trainer airplane For the beginners' class person who removes a large majority of hit ball from a target, the practice which hammers out a golf ball was only repeated and must be performed so that more hit balls may hit a target, and the contents of practice carried out dry.

[0005] The place which \*\*\*\* invention is made in view of such the actual condition, and is made into the purpose is offering the golf trainer airplane which can practice golf while enjoying itself, even if it is a beginners' class person according to easy structure.

[0006] And especially in invention of claim 2 and claim 3, it is offering the golf trainer airplane with which the idea's was elaborated more according to easy structure.

[0007]

[Means for Solving the Problem] In order to solve the above technical problem, when the sign which uses the means which \*\*\*\* invention took for a drawing is attached and explained, first invention of claim 1 "A hit part detection means 12 to detect the hit part in said sheet 10 of the hit ball hammered out by the sheet 10 which serves as a target, A pattern display means 20 to display each of the pattern corresponding to the hit part of the first hit ball, and the pattern corresponding to the hit part of the second hit ball at least, When the pattern of a specific mode is displayed on this pattern display means 20, it is the golf trainer airplane 100 characterized by having a production activation means 30 to perform predetermined production."

[0008] "Next, invention of claim 2, a hit part detection means 12 to detect the hit part in said sheet 10 of the hit ball hammered out by the sheet 10 which serves as a target, A hit ball speed detection means 13 to detect the rate of said hit ball, and a pattern display means 20 to display each with the pattern corresponding to the hit part of the first hit ball, the hit part of the pattern corresponding to a rate, and the second hit ball, and a rate at least, When the pattern of a specific mode is displayed on this pattern display means 20, it is the golf trainer airplane 100 characterized by having a production activation means 30 to perform predetermined production."

[0009] Finally, invention of claim 3 is "the golf trainer airplane 100 according to claim 1 or 2 characterized by having the image-processing means which projects on said sheet 10 each of the image of the course of a golf course, and the image of the hit ball created from the data of the hit part of a hit ball at least."

[0010]

[Function of the Invention] Thus, the golf trainer airplane 100 concerning constituted \*\*\*\* invention acts as follows.

[0011] First, the golf trainer airplane 100 concerning invention of claim 1 A hit part detection means 12 to detect the hit part of the hit ball in a sheet 10 detects the hit part of the first hit ball and the second hit ball. the pattern corresponding to each hit part -- the each pattern display means 20 -- displaying -- making -- the voice of specification [ this pattern display means 20 ] -- when a pattern [ like ] is displayed, it is made to perform various production with the production activation means 30. For this reason, a practice person can perform practice profit, enjoying the production performed when the pattern displayed on the pattern display means 20 even when it separated from the target 11 which the first hit ball and second hit ball aimed at is a specific mode. That is, according to accidental generating of the pattern of a specific mode, since various production is performed accidentally, a practice person can practice golf, enjoying this production performed accidentally.

[0012] Next, the golf trainer airplane 100 concerning invention of claim 2 equips the golf trainer airplane 100 concerning invention of claim 1 with a hit ball speed detection means 13 to detect the rate of a hit ball, and makes the pattern displayed on the pattern display means 20 correspond not only to a hit part but to the rate of a hit ball. For this reason, the mode of the pattern displayed on the pattern display means 20 will be complicated, and an idea will be elaborated more.

[0013] Finally, the golf trainer airplane 100 concerning invention of claim 3 equips the golf trainer airplane 100 concerning invention of claim 1 or claim 2 with an image-processing means, with this image-processing means, projects the image of the course of a golf course on a sheet 10, and projects the image of the hit ball created from the hit part of a hit ball further at least. For this reason, the practice person who uses this golf trainer airplane 100 can practice golf with the feeling which actually goes around [ a course ], and an idea will be elaborated further.

[0014]

[Example] Next, the example of the golf trainer airplane 100 concerning \*\*\* invention is explained to a detail according to a drawing.

[0015] One example of the golf trainer airplane 100 applied to invention of claim 2 at drawing 1 is shown. In this golf trainer airplane 100, the practice field is formed with the abbreviation square-like frame (not shown), a target 11 is drawn on an abbreviation central part by at least the maximum inner of this practice field, and the sheet 10 is arranged in it. And two or more pressurization electrical conductive gum 14 of the hit part detection means 12 and the hit ball speed detection means 13 which presupposes respectively and functions is arranged in random a target's 11 periphery side in a sheet 10. Here, as two or more pressurization electrical conductive gum 14 as the hit part detection means 12 and a hit ball speed detection means 13 is not arranged in random, for example, it is shown in drawing 2 , it may arrange in concentric circular, or as shown in drawing 3 , you may arrange in the shape of a grid. Moreover, the sheet 10 equipped with the hit part detection means 12 and the hit ball speed detection means 13 may be arranged in a both-sides side, a top face, etc. of the practice field formed with the frame.

[0016] in addition, in this example, although the example which adopted pressurization electrical conductive gum 14 as the hit part detection means 12 and a hit ball speed detection means 13 was shown, the hit part detection means 12 and the hit ball speed detection means 13 may be the sensors for example, not only this but according to each individual. Namely, the hit ball speed detection means 13 just detects the rate of a hit ball that the hit part detection means 12 should just be what can detect the hit part of the hit ball in a sheet 10. Moreover, the hit ball speed detection means 13 may detect the head speed of what [ not only ] detects the rate of a hit ball directly but a golf club, and may make this the rate of a hit ball.

[0017] By the way, if each pressurization electrical conductive gum 14 specifies the pattern (not shown) corresponding to the arrangement part and a hit ball hits pressurization electrical conductive gum 14, the pattern corresponding to the pressurization electrical conductive gum 14 will be displayed on the pattern display means 20. The figure of "1" - "9" is adopted as a pattern, and it is made to be displayed in the figure corresponding to the hit part of a hit ball in this example here at the pattern display means 20. In addition, a pattern may be not only a figure but an alphabetic character, a graphic form, a pattern, etc.

[0018] If the rate of a hit ball is less than 100 km/h, the figures displayed are 100 or more km/h red and less than 200 km/h and it is yellow and 200 km/h or more, it will be blue and will be made to be displayed on the other hand. In addition, modification of the pattern corresponding to the rate of a hit ball is not restricted to a color. Namely, as for a pattern, the color, a configuration, etc. should just be changed also corresponding to the rate of a hit ball.

[0019] Next, the figure corresponding to the part and hit ball rate which the first hit ball by which the pattern display means 20 was set forth first hit and the pattern of a color, Next, it is constituted so that three patterns of the pattern of the figure corresponding to the part and hit ball rate which the second hammered-out hit ball hit, and a color, and the pattern of the figure corresponding to the part and hit ball rate which the third hit ball hammered out further next hit, and a color may be displayed. In addition, the pattern display means 20 should just display not only this but each of the pattern corresponding to the first hit part and rate of a hit ball at least, and the pattern corresponding to the hit part and rate of the second hit ball.

[0020] Thus, if the pattern displayed on the pattern display means 20 serves as a specific mode (for example, all of three are equal to the same figure and a color), predetermined production will be performed by the production activation means 30. In this example, a fanfare flows from a loudspeaker 31, and it is made for the light 32 to have blinked as predetermined production, and has been made to be published here in the card 33 which printed the displayed pattern further. In addition, as production which the production activation means 30 performs, it does not restrict to these.

[0021] Next, another gestalt of the pattern display means 20 and the production activation means 30 is explained. Two patterns of the pattern corresponding to the first hit part and rate of a hit ball for the pattern display means 20 and the pattern corresponding to the hit part and rate of the second hit ball shall be displayed. And similarly the count as which the pattern of a specific mode was displayed on the pattern display means 20 is displayed on the pattern display means 20, and let this be the production activation means 30. A practice person etc. may enable it to set the specific mode of a pattern as arbitration beforehand here.

[0022] As mentioned above, although the example of the golf trainer airplane 100 concerning invention of claim 2 was explained, in the golf trainer airplane 100 concerning invention of claim 1, the hit ball speed detection means 13 mentioned above is not necessarily needed.

[0023] Next, the example of the golf trainer airplane 100 concerning invention of claim 3 is explained. The golf trainer airplane 100 concerning invention of claim 3 should just project on the sheet 10 of the golf trainer airplane 100 concerning invention of claim 1 or claim 2 each of the image of the course of a golf course, and the image of the hit ball created from the data of the hit part of a hit ball at least with an image-processing means (not shown). In addition, if the image of a hit ball is created from the data of the hit part of the hit ball in a sheet 10, faithfully the direction of a hit ball, but when the image of a hit ball is created from each data of the hit part of a hit ball, and a rate, the simulation not only of the direction of a hit ball but the flight distance can be carried out faithfully, and it is convenient.

[0024] Here, the example of the golf trainer airplane 100 concerning invention of claim 3 is explained with the use mode. First, two or more pressurization electrical conductive

gum 14 as shown in drawing 3 adopts what was arranged in the shape of a grid as a sheet 10. And the image of the course of a golf course is made to project on this sheet 10 with image-processing means which photoed the course of an actual golf course, such as a film and computer graphics. Next, a practice person hammers out a golf ball toward the sheet 10 which the course projected, and makes a hit ball hit a sheet 10. Then, although an actual hit ball falls after hitting a sheet 10 The image of the hit ball created from each data of the hit part of the hit ball detected with the hit part detection means 12 and the hit ball speed detection means 13 14, i.e., two or more pressurization electrical conductive gum arranged in the shape of a grid, and a rate projects on the image of a course in piles at a sheet 10. The simulation of signs that a hit ball flies is carried out to a course. And the halt point of the hit ball by which the simulation was carried out is made to correspond as a pattern displayed on the pattern display means 20, and this pattern is displayed on the pattern display means 20.

[0025] As mentioned above, although the example of the golf trainer airplane 100 concerning \*\*\*\* invention was explained, \*\*\*\* invention is not limited to this and may deform into modes various in the range which does not deviate from the matter indicated by the claim. For example, various deformation -- arrange the hit part detection means 12 in the floor line of the golf trainer airplane 100 (in addition, the hit ball speed detection means 13 may be arranged), and it is good also as a trainer airplane of putt, and enable it to operate acquisition of the golf ball practiced with a card etc., and the pattern displayed on this card is recorded in the case of practice termination -- is possible.

[0026]

[Effect of the Invention] As explained to the detail above, first the golf trainer airplane concerning invention of claim 1 A hit part detection means detects the hit part of the hit ball in a sheet. When each of the pattern corresponding to the hit part of the first hit ball and the second hit ball is displayed on a pattern display means at least and the pattern of a specific mode is displayed, even if it separates from the target which was made to perform predetermined production, for example, the hit ball aimed at It enables it to enjoy the production performed accidentally.

[0027] Next, in addition to the golf trainer airplane concerning invention of claim 1, the golf trainer airplane concerning invention of claim 2 is equipped with a hit ball speed detection means to detect the rate of a hit ball, makes the pattern displayed on a pattern display means correspond to the hit part and rate of a hit ball, and complicates correspondence of the pattern displayed.

[0028] Finally, in addition to the golf trainer airplane concerning invention of claim 1 or claim 2, the golf trainer airplane concerning invention of claim 3 is equipped with the image-processing means which projects the image of a course, and the image of a hit ball on a sheet, and simulation-izes the contents of practice at the round of an actual course.

[0029] Therefore, according to \*\*\*\* invention, the golf trainer airplane which can practice golf while enjoying itself, even if it is a beginners' class person can be offered according to easy structure. Especially, according to invention of claim 2 and claim 3, the golf trainer airplane with which the idea was elaborated more can be offered according to easy structure.

## TECHNICAL FIELD

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[Industrial Application] \*\*\*\* invention relates to the golf trainer airplane which can practice while enjoying itself, even if it is a beginners' class person in detail about a golf trainer airplane.

## PRIOR ART

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[Description of the Prior Art] Conventionally as a golf trainer airplane, it has the target drawn on the sheet etc., and there are some to which a practice person hammers out a golf ball for the purpose of this target, and was made to practice golf.

[0003] Here, when a practice person is an upper person, a practice person can make a hit ball hit the target which aimed frequently, and he can practice, checking and satisfying the workmanship which was excellent in it. However, when a practice person is a beginners' class person, it is rare rather to hit the target which the hit ball aimed at, and a large majority of hit balls hit parts other than the target which aimed. Then, a beginners' class person repeats practice so that more hit balls may hit a target, and he raises workmanship.

## EFFECT OF THE INVENTION

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[Effect of the Invention] As explained to the detail above, first the golf trainer airplane concerning invention of claim 1 A hit part detection means detects the hit part of the hit ball in a sheet. When each of the pattern corresponding to the hit part of the first hit ball and the second hit ball is displayed on a pattern display means at least and the pattern of a specific mode is displayed, even if it separates from the target which was made to perform predetermined production, for example, the hit ball aimed at It enables it to enjoy the production performed accidentally.

[0027] Next, in addition to the golf trainer airplane concerning invention of claim 1, the golf trainer airplane concerning invention of claim 2 is equipped with a hit ball speed detection means to detect the rate of a hit ball, makes the pattern displayed on a pattern display means correspond to the hit part and rate of a hit ball, and complicates correspondence of the pattern displayed.

[0028] Finally, in addition to the golf trainer airplane concerning invention of claim 1 or claim 2, the golf trainer airplane concerning invention of claim 3 is equipped with the image-processing means which projects the image of a course, and the image of a hit ball on a sheet, and simulation-izes the contents of practice at the round of an actual course.

[0029] Therefore, according to \*\*\*\* invention, the golf trainer airplane which can practice golf while enjoying itself, even if it is a beginners' class person can be offered according to easy structure. Especially, according to invention of claim 2 and claim 3, the golf trainer airplane with which the idea was elaborated more can be offered according to easy structure.

## TECHNICAL PROBLEM

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[Problem(s) to be Solved by the Invention] However, although golf can be practiced checking and being satisfied with the target which aimed of the workmanship which was excellent in it for the upper person who can make a hit ball hit the mark frequently if it is in the conventional golf trainer airplane For the beginners' class person who removes a

large majority of hit ball from a target, the practice which hammers out a golf ball was only repeated and must be performed so that more hit balls may hit a target, and the contents of practice carried out dry.

[0005] The place which \*\*\*\* invention is made in view of such the actual condition, and is made into the purpose is offering the golf trainer airplane which can practice golf while enjoying itself, even if it is a beginners' class person according to easy structure.

[0006] And especially in invention of claim 2 and claim 3, it is offering the golf trainer airplane with which the idea's was elaborated more according to easy structure.

## MEANS

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[Means for Solving the Problem] In order to solve the above technical problem, when the sign which uses the means which \*\*\*\* invention took for a drawing is attached and explained, first invention of claim 1 "A hit part detection means 12 to detect the hit part in said sheet 10 of the hit ball hammered out by the sheet 10 which serves as a target, A pattern display means 20 to display each of the pattern corresponding to the hit part of the first hit ball, and the pattern corresponding to the hit part of the second hit ball at least, When the pattern of a specific mode is displayed on this pattern display means 20, it is the golf trainer airplane 100 characterized by having a production activation means 30 to perform predetermined production."

[0008] "Next, invention of claim 2, a hit part detection means 12 to detect the hit part in said sheet 10 of the hit ball hammered out by the sheet 10 which serves as a target, A hit ball speed detection means 13 to detect the rate of said hit ball, and a pattern display means 20 to display each with the pattern corresponding to the hit part of the first hit ball, the hit part of the pattern corresponding to a rate, and the second hit ball, and a rate at least, When the pattern of a specific mode is displayed on this pattern display means 20, it is the golf trainer airplane 100 characterized by having a production activation means 30 to perform predetermined production."

[0009] Finally, invention of claim 3 is "the golf trainer airplane 100 according to claim 1 or 2 characterized by having the image-processing means which projects on said sheet 10 each of the image of the course of a golf course, and the image of the hit ball created from the data of the hit part of a hit ball at least."

## OPERATION

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[Function of the Invention] Thus, the golf trainer airplane 100 concerning constituted \*\*\*\* invention acts as follows.

[0011] First, the golf trainer airplane 100 concerning invention of claim 1 A hit part detection means 12 to detect the hit part of the hit ball in a sheet 10 detects the hit part of the first hit ball and the second hit ball. the pattern corresponding to each hit part -- the each pattern display means 20 -- displaying -- making -- the voice of specification [ this pattern display means 20 ] -- when a pattern [ like ] is displayed, it is made to perform various production with the production activation means 30. For this reason, a practice person can perform practice profit, enjoying the production performed when the pattern displayed on the pattern display means 20 even when it separated from the target 11 which the first hit ball and second hit ball aimed at is a specific mode. That is, according

to accidental generating of the pattern of a specific mode, since various production is performed accidentally, a practice person can practice golf, enjoying this production performed accidentally.

[0012] Next, the golf trainer airplane 100 concerning invention of claim 2 equips the golf trainer airplane 100 concerning invention of claim 1 with a hit ball speed detection means 13 to detect the rate of a hit ball, and makes the pattern displayed on the pattern display means 20 correspond not only to a hit part but to the rate of a hit ball. For this reason, the mode of the pattern displayed on the pattern display means 20 will be complicated, and an idea will be elaborated more.

[0013] Finally, the golf trainer airplane 100 concerning invention of claim 3 equips the golf trainer airplane 100 concerning invention of claim 1 or claim 2 with an image-processing means, with this image-processing means, projects the image of the course of a golf course on a sheet 10, and projects the image of the hit ball created from the hit part of a hit ball further at least. For this reason, the practice person who uses this golf trainer airplane 100 can practice golf with the feeling which actually goes around [ a course ], and an idea will be elaborated further.

## EXAMPLE

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[Example] Next, the example of the golf trainer airplane 100 concerning \*\*\* invention is explained to a detail according to a drawing.

[0015] One example of the golf trainer airplane 100 applied to invention of claim 2 at drawing 1 is shown. In this golf trainer airplane 100, the practice field is formed with the abbreviation square-like frame (not shown), a target 11 is drawn on an abbreviation central part by at least the maximum inner of this practice field, and the sheet 10 is arranged in it. And two or more pressurization electrical conductive gum 14 of the hit part detection means 12 and the hit ball speed detection means 13 which presupposes respectively and functions is arranged in random a target's 11 periphery side in a sheet 10. Here, as two or more pressurization electrical conductive gum 14 as the hit part detection means 12 and a hit ball speed detection means 13 is not arranged in random, for example, it is shown in drawing 2, it may arrange in concentric circular, or as shown in drawing 3, you may arrange in the shape of a grid. Moreover, the sheet 10 equipped with the hit part detection means 12 and the hit ball speed detection means 13 may be arranged in a both-sides side, a top face, etc. of the practice field formed with the frame.

[0016] in addition, in this example, although the example which adopted pressurization electrical conductive gum 14 as the hit part detection means 12 and a hit ball speed detection means 13 was shown, the hit part detection means 12 and the hit ball speed detection means 13 may be the sensors for example, not only this but according to each individual. Namely, the hit ball speed detection means 13 just detects the rate of a hit ball that the hit part detection means 12 should just be what can detect the hit part of the hit ball in a sheet 10. Moreover, the hit ball speed detection means 13 may detect the head speed of what [ not only ] detects the rate of a hit ball directly but a golf club, and may make this the rate of a hit ball.

[0017] By the way, if each pressurization electrical conductive gum 14 specifies the pattern (not shown) corresponding to the arrangement part and a hit ball hits pressurization electrical conductive gum 14, the pattern corresponding to the

pressurization electrical conductive gum 14 will be displayed on the pattern display means 20. The figure of "1" - "9" is adopted as a pattern, and it is made to be displayed in the figure corresponding to the hit part of a hit ball in this example here at the pattern display means 20. In addition, a pattern may be not only a figure but an alphabetic character, a graphic form, a pattern, etc.

[0018] If the rate of a hit ball is less than 100 km/h, the figures displayed are 100 or more km/h red and less than 200 km/h and it is yellow and 200 km/h or more, it will be blue and will be made to be displayed on the other hand. In addition, modification of the pattern corresponding to the rate of a hit ball is not restricted to a color. Namely, as for a pattern, the color, a configuration, etc. should just be changed also corresponding to the rate of a hit ball.

[0019] Next, the figure corresponding to the part and hit ball rate which the first hit ball by which the pattern display means 20 was set forth first hit and the pattern of a color, Next, it is constituted so that three patterns of the pattern of the figure corresponding to the part and hit ball rate which the second hammered-out hit ball hit, and a color, and the pattern of the figure corresponding to the part and hit ball rate which the third hit ball hammered out further next hit, and a color may be displayed. In addition, the pattern display means 20 should just display not only this but each of the pattern corresponding to the first hit part and rate of a hit ball at least, and the pattern corresponding to the hit part and rate of the second hit ball.

[0020] Thus, if the pattern displayed on the pattern display means 20 serves as a specific mode (for example, all of three are equal to the same figure and a color), predetermined production will be performed by the production activation means 30. In this example, a fanfare flows from a loudspeaker 31, and it is made for the light 32 to have blinked as predetermined production, and has been made to be published here in the card 33 which printed the displayed pattern further. In addition, as production which the production activation means 30 performs, it does not restrict to these.

[0021] Next, another gestalt of the pattern display means 20 and the production activation means 30 is explained. Two patterns of the pattern corresponding to the first hit part and rate of a hit ball for the pattern display means 20 and the pattern corresponding to the hit part and rate of the second hit ball shall be displayed. And similarly the count as which the pattern of a specific mode was displayed on the pattern display means 20 is displayed on the pattern display means 20, and let this be the production activation means 30. A practice person etc. may enable it to set the specific mode of a pattern as arbitration beforehand here.

[0022] As mentioned above, although the example of the golf trainer airplane 100 concerning invention of claim 2 was explained, in the golf trainer airplane 100 concerning invention of claim 1, the hit ball speed detection means 13 mentioned above is not necessarily needed.

[0023] Next, the example of the golf trainer airplane 100 concerning invention of claim 3 is explained. The golf trainer airplane 100 concerning invention of claim 3 should just project on the sheet 10 of the golf trainer airplane 100 concerning invention of claim 1 or claim 2 each of the image of the course of a golf course, and the image of the hit ball created from the data of the hit part of a hit ball at least with an image-processing means (not shown). In addition, if the image of a hit ball is created from the data of the hit part of the hit ball in a sheet 10, faithfully the direction of a hit ball, but when the image of a

hit ball is created from each data of the hit part of a hit ball, and a rate, the simulation not only of the direction of a hit ball but the flight distance can be carried out faithfully, and it is convenient.

[0024] Here, the example of the golf trainer airplane 100 concerning invention of claim 3 is explained with the use mode. First, two or more pressurization electrical conductive gum 14 as shown in drawing 3 adopts what was arranged in the shape of a grid as a sheet 10. And the image of the course of a golf course is made to project on this sheet 10 with image-processing means which photoed the course of an actual golf course, such as a film and computer graphics. Next, a practice person hammers out a golf ball toward the sheet 10 which the course projected, and makes a hit ball hit a sheet 10. Then, although an actual hit ball falls after hitting a sheet 10 The image of the hit ball created from each data of the hit part of the hit ball detected with the hit part detection means 12 and the hit ball speed detection means 13 14, i.e., two or more pressurization electrical conductive gum arranged in the shape of a grid, and a rate projects on the image of a course in piles at a sheet 10. The simulation of signs that a hit ball flies is carried out to a course. And the halt point of the hit ball by which the simulation was carried out is made to correspond as a pattern displayed on the pattern display means 20, and this pattern is displayed on the pattern display means 20.

[0025] As mentioned above, although the example of the golf trainer airplane 100 concerning \*\*\* invention was explained, \*\*\* invention is not limited to this and may deform into modes various in the range which does not deviate from the matter indicated by the claim. For example, various deformation -- arrange the hit part detection means 12 in the floor line of the golf trainer airplane 100 (in addition, the hit ball speed detection means 13 may be arranged), and it is good also as a trainer airplane of putt, and enable it to operate acquisition of the golf ball practiced with a card etc., and the pattern displayed on this card is recorded in the case of practice termination -- is possible.

## DESCRIPTION OF DRAWINGS

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### [Brief Description of the Drawings]

[Drawing 1] It is the perspective view showing one example of the golf trainer airplane concerning this invention.

[Drawing 2] It is the front view showing another example of the sheet with which the detector was arranged.

[Drawing 3] It is the front view showing still more nearly another example of the sheet with which the detector was arranged.

### [Description of Notations]

10 Sheet

11 Target

12 Hit Part Detection Means

13 Hit Ball Speed Detection Means

14 Pressurization Electrical Conductive Gum

20 Pattern Display Means

30 Production Activation Means

31 Loudspeaker

32 Light

33 Card  
100 Golf Trainer Airplane